

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002625**Date Inspected:** 13-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai,China

CWI Name:	Chen chih Ming, Shen fu You, Lu Zhi Peng			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A

Bridge No: 34-0006**Component:** Side Plates, Bottom Plates, Floor Beams, Deck**Summary of Items Observed:**

The Quality Assurance (QA) Inspector, Mahlon Lindenmuth, arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following:

QA Inspector, Lindenmuth, observed the work being performed in Bay 2 of the New OBG. ZPMC personnel were performing various functions related to the fabrication of the OBG Side Plates and Bottom Plates as well as the deck sections in the jig fixture. The fabrication performed includes but is not limited to the preparation of areas where temporary welds for strongbacks are located, bevel preparation and welding of the Complete Joint Penetration welds (CJP) on Side Plates and Bottom Plates, heat straightening of Side Plates and Bottom Plates.

Member identification and the work performed on the member is as follows:

SEG15A (Bottom Plate): Caltrans QA observed ZPMC personnel performing base metal repair welding on Bottom Plate BP9A. As per ZPMC's weld repair internal tracker numbered BWR337, plate BP9 has been fabricated with a shorter width than necessary. The width is approximately 7mm shorter than required. ZPMC personnel are extending the width of the plate with weld metal (buttering). The base metal repair and WPS used for the repair have not been approved by Caltrans. Caltrans QA notified ZPMC Quality Control personnel and ABF personnel of the issue and has written an Incident Report detailing the issue.

SEG013A-018 (Side Plate): Caltrans QA observed ZPMC personnel backgouging areas of the Complete Joint Penetration (CJP) weld joining the two side plates located on SEG13A-018. Backgouging was performed from the

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root side of the joint at areas marked for repairs by ZPMC Quality Control (QC) personnel. The areas of repair were discovered by Ultrasonic Testing (UT) performed by ZPMC QC.

SEG020A-016 (Side Plate): Caltrans QA observed the SAW welding of the CJP weld joining SP043-01 to SP055-01. Caltrans QA was not able to record any welding parameters at this location due to a pause in welding. However, Caltrans QA did review the WPS identified as WPS-B-T-223(2)1T and the welder's documentation identified as Wang Ming (ID#:048246). The CWI monitoring the welding is identified as Chen chi Ming.

SEG15A Panel Point 19 Cross Bracing (FL2-1): Caltrans QA observed that the connection plates for the for the Floor Beam Cross has been tack welded to the bottom flange of Floor Beam FB3 (FL2-1). The weld joints are identified as SSD15A-PPO19-132 and SSD15A-PPO19-131. The welding of the Floor Beam Cross Bracing connection plates are being completed prior to installation into the deck section.

OBG Jig Fixture (South)

Caltrans QA also observed ZPMC personnel continuing the weld repairs on the Complete Joint Penetration (CJP) welds joining 3BE-E7 to 3BE-D6. Repairs are being made after ZPMC Quality Control (QC) personnel performed Ultrasonic Testing (UT) of the joint and noted discontinuities in the weld. The repairs are a first time repair on the joint. The repairs are accessed from the underside of the joint (root side). Prior to repair welding ZPMC QC personnel performed Magnetic Particle Testing (MT) of the excavated areas of the joint and noted the areas as acceptable. The welding variables and welder Identification numbers are noted below.

Caltrans QA noted that approximately 2800mm of weld joint could not be accessed due to the fact that the jig fixtures lateral beam supports caused an obstruction. Caltrans QA could not determine if weld repairs are necessary in the inaccessible areas due to ZPMC QC inadequately marking the areas of UT indications on the weld face.

General Note: All worked observed, unless otherwise noted, appeared to generally comply with the contract documents.

Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	3BE-D6 to 3BE-E7	WPS-345-SMAW-4C (45%RP)	Chen Chi Ming	145	24	86	78 C	Welder ID: 200114

Summary of Conversations:

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Lindenmuth, Mahlon

Quality Assurance Inspector

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Reviewed By: Cuellar,Robert

QA Reviewer